

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Please amend the claims as follows:

**Claim 1. (Previously Presented)** A method for the detection, characterization and qualitative and/or quantitative determination of the activity of a phosphoamidase, comprising hydrolyzing a phospho-ester bond (P-O) of at least one of the substrates selected from the group consisting of FDP (fluorescein diphosphate), DDAO (9H-(1,3-dichloro-9,9-dimethyl-acridin-2-one-7-yl)phosphate), DiFMUP (6,8-difluoro-4-methylumbelliferyl phosphate), ELF<sup>®</sup>39 phosphate (2-(2'-phosphophenyl)-4-(3H)-quinazolinone) and ELF<sup>®</sup>97 phosphate (2-(5'-chloro-2'-phosphophenyl)-6-chloro-4-(3H)-quinazolinone).

**Claim 2. (Previously Presented)** A method of claim 1 wherein the phosphoamidase is a protein phospho-amidase.

**Claim 3. (Previously Presented)** A method of claim 2 wherein the protein phosphoamidase is a protein histidine phosphoamidase (PHP).

**Claim 4. (Previously Presented)** A method of claim 3 wherein the protein histidine phosphoamidase is PHP1.

**Claim 5. (Previously Presented)** A method for the identification of an inhibitor or activator of a phosphoamidase comprising the steps:

- a) establishing a sample comprising a phosphoamidase and a test substance,
- b) administering a substrate selected from the group consisting of FDP, DDAO, DiFMUP, ELF<sup>®</sup>39 phosphate and ELF<sup>®</sup>97 phosphate to the sample,
- c) detecting the signal produced by the hydrolysis of the phospho-ester bond (P-O) of the substrate, and
- d) identifying the test substance as an activator or inhibitor of the phosphoamidase by

comparing the signal produced in the sample comprising the test substance with the signal produced in a control sample comprising no test substance.

**Claim 6. (Withdrawn, Currently Amended)**

A method for the identification of the activity of a phosphoamidase in an electrophoresis gel or on a blot membrane comprising the steps:

- a) separating a sample comprising a phosphoamidase in a gel
- b) if necessary, renaturation of the phosphoamidase
- c) incubating the gel or the blot membrane resulting from blotting the gel with ELF<sup>®</sup>39 phosphate and/or ELF<sup>®</sup>97 phosphate as substrate, and
- d) detecting the signal produced by the substrate

**Claim 7. (Withdrawn, Currently Amended)**

A method for the determination of the specificity ~~specificity~~ of an inhibitor or activator for a certain phosphoamidase or phosphatase comprising the steps:

- a) separating a sample comprising several phosphoamidases and/or phosphatases in a gel
- b) ~~if necessary, renaturation of~~ optionally renaturing the phosphoamidase
- c) incubating the gel or the blot membrane resulting from blotting the gel with the inhibitor or activator and subsequently with ELF<sup>®</sup>39 phosphate and/or ELF<sup>®</sup>97 phosphate as substrate, and
- d) determining the specificity of the inhibitor or activator by comparing the signal produced in the gel or blot membrane incubated with the inhibitor or activator with the signal produced in a control gel or blot ~~membrane~~ membrane not incubated with the inhibitor or activator.

**Claim 8. (Original)**

A method according to claim 5 wherein the phosphoamidase is a protein phosphoamidase.

**Claim 9. (Original)**

A method according to claim 8 wherein the protein phosphoamidase is a protein histidine phosphoamidase.

**Claim 10. (Original)** A method according to claim 9 wherein the protein histidine phosphoamidase is PHP1.

**Claim 11. (New)** A method of claim 1 wherein the substrate is selected from a group consisting of DiFMUP (6,8-difluoro-4-methylumbelliferyl phosphate), FDP (fluorescein diphosphate), ELF<sup>®</sup>39 phosphate (2-(2'-phosphophenyl)-4-(3H)-quinazolinone) and ELF<sup>®</sup>97 phosphate (2-(5'-chloro-2'-phosphophenyl)-6-chloro-4-(3H)-quinazolinone).

**Claim 12. (New)** A method of claim 5 wherein the substrate is selected from a group consisting of DiFMUP (6,8-difluoro-4-methylumbelliferyl phosphate), FDP (fluorescein diphosphate), ELF<sup>®</sup>39 phosphate (2-(2'-phosphophenyl)-4-(3H)-quinazolinone) and ELF<sup>®</sup>97 phosphate (2-(5'-chloro-2'-phosphophenyl)-6-chloro-4-(3H)-quinazolinone).

**Claim 13. (New)** A method of claim 1 which is conducted in liquid phase, semi-solid phase, or solid phase.

**Claim 14. (New)** A method of claim 5 which is conducted in liquid phase, semi-solid phase, or solid phase.

**Claim 15. (New)** A method of claim 1 wherein said liquid phase is buffer-based, said semi-solid phase is gel-based, and said solid phase is blot-based.

**Claim 16. (New)** A method of claim 5 wherein said liquid phase is buffer-based, said semi-solid phase is gel-based, and said solid phase is blot-based.